REMARKS

I. Status of the Claims

Claims 11, 21-24, 28-31, 33-42, 46, 47, and 53 are currently pending in the application, with claim 11 being the independent claim.

II. The Examiner Has Withdrawn Objections to Claims 1 and 31

The Examiner has withdrawn previous objections to claims 1 and 31. Applicants hereby thank the Examiner for withdrawing these objections.

III. The Examiner Has Withdrawn Rejections to Claims 11, 21-24, 28-31, 33-42, 46, 47, and 53 under 35 U.S.C. §102

The Examiner has withdrawn the previous rejection of claims 11, 21-24, 28-31, 33-42, 46, 47, and 53 as being anticipated by Roberts (U.S. Patent 5,712,149) under 35 U.S.C. §102(e), by Seed et al. (U.S. Patent 5,912,170) under 35 U.S.C. §102(e), and by Capon et al. (WO 96/24671) under 35 U.S.C. §102(a). Applicants hereby thank the Examiner for withdrawing these rejections.

IV. The Rejection of Claims 11, 21-24, 28-31, 33-42, 46, 47, and 53 for Obviousness under 35 U.S.C. §103(a) is Respectfully Traversed

The Examiner has rejected claims 11, 21-24, 28-31, 33-42, 46, 47, and 53 under 35 U.S.C. §103(a) as being obvious over Roberts, Seed et al., and Capon et al., in view of Adair et al. (WO 91/09967) (see pages 3-8). This rejection is respectfully traversed.

After discussing each of the Roberts, Seed, and Capon in turn, the Examiner alleges:

In summary, each Roberts, Seed *et al.* and Capon *et al.* provide the guidance for a DNA delivery system comprising a DNA construct encoding: (a) a signal peptide; (b) a binding component comprising a recombinant antibody; (c) a transmembrane component; (d) two or more cytoplasmic signaling domains; and (e) one or more spacer regions. However, none of the references specifically teach to use a recombinant antibody which is CDR-grafted antibody as component (b). At the time of filing Adair *et al.* taught CDR-grafted antibodies were known and used to generate humanized antibodies. Adair *et al.* teach that the use of CDR-grafted humanized antibodies allows for the use of the recombinant antibody *in vivo* in a human patient because it avoids the undesirable immune response of an antibody derived uniquely from a different species (page 2, second and third paragraphs). Further, the use of CDR grafting allows for the use of an already identified and useful antibody. Therefore, it would have been prima facie obvious to one having ordinary skill in the art at the time the invention was made to substitute the CDR-grafted antibodies taught by Adair *et al.* as one of the forms of recombinant antibodies as the binding component of the DNA delivery system taught by Roberts, Seed *et al.* and Capon *et al.* One having ordinary skill in the art would have been motivated to substitute a CDR-grafted antibody because as Adair *et al.* teach it avoids undesirable immune responses in the recipient to which it is administered (page 2, third paragraph). Further, the use of the CDR of an antibody allows for the generation of a recombinant humanized antibody from already existing antibodies generated in other species (page 2, fourth paragraph). There would have been a reasonable expectation of success to substitute the recombinant CDR-grafted antibody taught by Adair *et al.* into the system of Roberts, Seed *et al.* and Capon *et al.* given the successful results of Roberts, Seed *et al.* and Capon *et al.* for using other forms of recombinant antibodies.

To the extent Applicants arguments apply to the instant claims, Examiner notes the amendments to the claims to specifically use CDR-grafted antibodies and that Roberts, Seed *et al.* and Capon *et al.* do not specifically teach to use a CDR-grafted antibody (see Applicants' amendment, pages 5-6). However, Roberts, Seed *et al.* and Capon *et al.* clearly teach the use of recombinant antibodies. As noted by the specification CDR-grafted antibodies were well known form of recombinant antibody at the time of filing (page 6). The use of CDR-grafted antibodies would have been an obvious variation of recombinant antibody for the use in the systems taught by Roberts, Seed *et al.* and Capon *et al.*...(Pages 6-7.)

With respect to element (b) *supra*, unlike the disclosures of Roberts, Seed, and Capon, Applicants do not simply claim "a binding component comprising a recombinant antibody;" rather, Applicants claim "a binding component comprising a complementarity determining region

(CDR)-grafted antibody or an antigen binding fragment of said CDR-grafted antibody." In essence, the Examiner alleges that Roberts, Seed, and Capon provide DNA delivery systems, which only differ from the DNA delivery system claimed in that they do not specifically teach the use of a CDR-grafted antibody component, such as that described by Adair. The Examiner alleges that one skilled in the art would have been motivated to substitute a CDR-grafted antibody for the recombinant antibodies used in Roberts, Seed, and Capon, because Adair discloses that the use of CDR-grafted antibodies reduces undesirable immune responses in humans. However, there is **no suggestion in Roberts, Seed, or Capon to use CDR-grafted antibodies as the binding component in the DNA delivery systems** they disclose, and there is **no suggestion in Adair to use the CDR-grafted antibodies it discloses as components in chimeric receptors**, such as those disclosed in Roberts, Seed, or Capon.

The Examiner alleges that the disclosure in Adair that humanized antibodies reduce an undesirable immune response would motivate one of ordinary skill in the art to use CDR-grafted antibodies in lieu of the recombinant antibodies disclosed in Roberts, Seed, and Capon, but **there is no suggestion in Roberts, Seed, or Capon that such a need even exists**. Thus, within the references, there is no suggestion or motivation to combine the teachings of the references in order to produce the claimed invention.

In view of the foregoing remarks, Applicants respectfully assert that the present invention is not rendered obvious by Roberts, Seed, and Capon in view of Adair. Therefore, Applicants respectfully request reconsideration and withdrawal of the rejections made under 35 U.S.C. §103(a).

CONCLUSION

In view of the foregoing amendments and remarks, the present application is respectfully considered in condition for allowance. An early reconsideration and notice of allowance are earnestly solicited.

It is believed that all outstanding rejections have been addressed by this submission and that all the claims are in condition for allowance. If discussion of any amendment or remark made herein would advance this important case to allowance, the Examiner is invited to call the undersigned as soon as convenient.

Applicants hereby petition for a three-month extension of time and submit the appropriate fee. If a petition for an additional extension of time is required, then the Examiner is requested to treat this as a conditional petition for an additional extension of time. Although it is not believed that any additional fee is required to consider this submission, the Commissioner is hereby authorized to charge our deposit account no. 04-1105 should any fee be deemed necessary.

Respectfully submitted,

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